

# EGD

(EsophagoGastroDuodenoscopy)

# Simulator

LM-103

## Instruction Manual

Thank you for purchasing this EGD Simulator.

Please read this instruction manual carefully to ensure correct use of the product,  
and store it in a safe place for easy access.

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## Handling and Safety Precautions

**These precautions should be strictly observed in order to ensure safe, long-term use of the product.**

### **The following precautions should be observed particularly strictly:**

#### ○ About “EGD Simulator LM-103”

1. This simulator is made of specialized silicone rubber, which achieves a similar texture as the human body, and may break when inappropriate force is used. Please handle it with the same care as when handling human beings.
2. Every time before this simulator is used, apply an adequate amount of endoscopic lubricating jelly in stock to the inside of the simulator. Please refer to P.7 “3-1 Application of lubricating jelly” for further details. When adequate lubricating jelly is not applied, the endoscope may become stuck inside the simulator, causing damage.
3. Do not place anything directly on the body of the simulator, because the simulator may become deformed.
4. Please refrain from using organic solvents such as thinners or benzene, since the simulator may be deformed and the color may fade.
5. Do not use oil-based ink or paint, because these will soak into the simulator and cannot be deleted.
6. When transporting the simulator in the black case, close all the clasps.
7. This product is intended for use in standard operating environments. Do not use it in heavy industrial settings.
8. This model uses urethane foam for some of its parts, and may be susceptible to damage from pests that are attracted to urethane foam (such as insects in the ant family).  
When storing this model, ensure that thorough measures are taken to prevent pest damage before storing. The company will not be involved with or held liable for pest damage that occurs during storage.

### **Options sold separately**

#### ○ Concerning the “Simulated polyp (for polypectomy) LM-103A”

1. Please take care to follow the directions below so as to avoid mold growth or degeneration of the Simulated Polyp.
  - 1-1. Please avoid storing the Simulated Polyp (for polypectomy) at a location with direct sunlight or a high temperature and always store in a refrigerator (between 2 and 10°C, do not freeze). If it is stored at a temperature of over 30°C, it may change in shape or degrade, rendering it unusable.

1-2. Please use the Simulated Polyp as early as possible after it has been unsealed. KOKEN is not responsible for quality of Simulated Polyps that have already been unsealed.

1-3. When taking out the Simulated Polyp, please use clean tweezers etc.

1-4. If a Simulated Polyp has been taken out of the container, please do not put it back in the container.

1-5. Do not leave a Simulated Polyp (for polypectomy) out of the container for a long period of time. The surface will become dry and hard, and it will not be possible to use it any longer.

1-6. Always store in the storage liquid. Storing it in other liquids will cause degeneration of the polyp. Be careful not to spill the storage liquid or throw it away before using all the Simulated Polyps (for polypectomy).

2. When resecting a Simulated Polyp (for polypectomy), always use a disposable electrode.
3. Be sure that no storage liquid gets in your eyes or mouth.

### **Maintenance of the model after use.**

1. Each time after using this simulator, wash the lubricating jelly inside the gastrointestinal tract with cold or hot water.
2. Wipe dirt from the black case (excluding the sponge parts) using a soft cloth such as gauze soaked in water or mild detergent diluted with water.  
\* Never use solvents like thinners or benzene.
3. When this simulator is exposed to direct sunlight or ultraviolet rays for a prolonged period of time, it may be deformed or the color may fade. When not in use, attach to its proper place on the base of the case, put the lid on, and store in a level place without direct sunlight or ultraviolet rays.

1. The contents of this instruction manual are subject to change without notice.
2. This instruction manual may not be reproduced in part or in its entirety without permission.
3. Please contact us in the event that any errors or omissions are found in the contents of the instruction manual.
4. This product should be used only as described in this instruction manual. In particular, the product should not be used in any way that contravenes the precautions noted in the instruction manual.

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# 1. Outline and Features

## Outline

This product is a simulator in which an endoscope can be inserted into the upper gastrointestinal tract to perform examination.

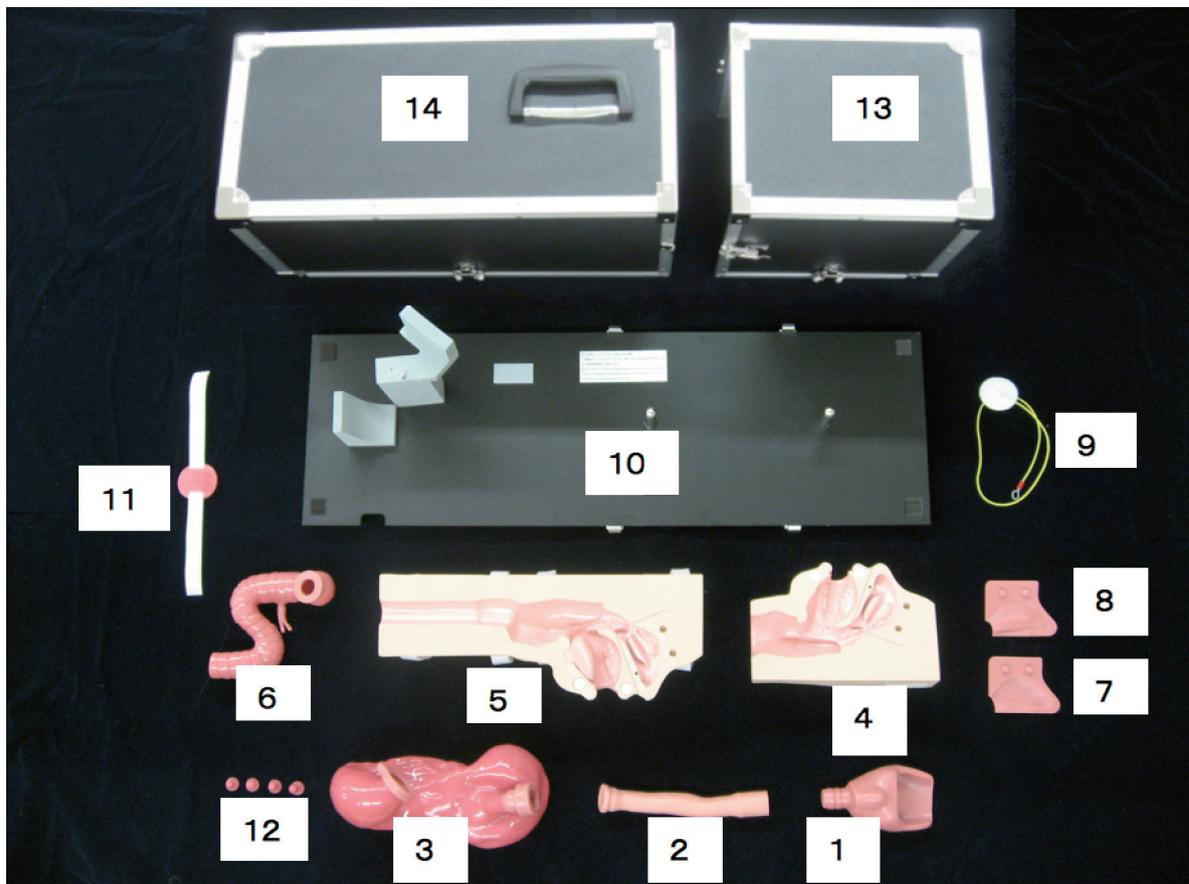
Both transoral and transnasal insertion are available, and as an accessory, recreation of an ulcer and an observational polyp is included.

As a separately sold option, a polyp can be attached to practice polyp resection and control of bleeding from it.

## Features

1. Specialized silicone rubber is used as the material, and inserting the endoscope feels like inserting it into an actual human body. The color inside is also close to that of the human body.
2. Since the oral and nasal cavities have been reproduced, both transoral and transnasal insertion can be practiced.
3. For the transnasal insertion, the difficulty setting of insertion can be changed by placing the nasal septum pieces to deviate to the right or the left side. The insertion technique and visibility can be changed.
4. Practicing endoscopic examination of the esophagus, stomach, and duodenum is possible. It is also possible to practice cannulation of the papilla during endoscopic retrograde cholangiopancreatography (ERCP).
5. Gastric ulcers and early gastric cancer can be observed in the stomach. Four types of polyps of Yamada classification types I to IV can also be attached for observation.
6. As a separately sold option, a polyp can be attached to practice polyp resection and control of bleeding from it. After resecting it, one can practice the clipping method to stop the bleeding.
7. An ulcer is reproduced in the duodenum.

## 2. Names of pieces and configuration diagram



	Name of Components
1	Hypopharynx piece
2	Esophagus piece
3	Stomach
4	Half head piece
5	Main head piece
6	Duodenum piece
7	Nasal septum (deviated to the left)
8	Nasal septum (deviated to the right)
9	Simulated polyp (for polypectomy) conduction cable
10	Stand
11	Simulated polyp fixture
12	Simulated polyps (for observation):Yamada classification types I to IV
13	Hard case (for the head side)
14	Hard case (for the body side)

### 3. Handling the Simulator

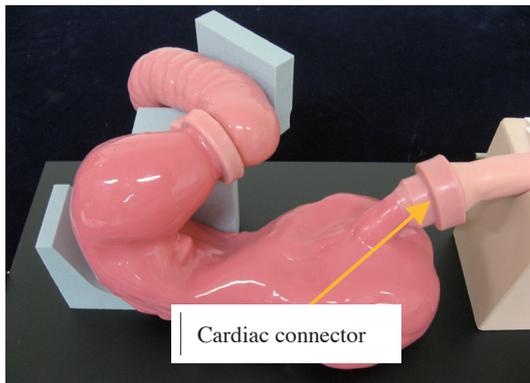
- Before using this simulator, apply lubricating jelly to each piece. Use any endoscopic lubricating jelly in stock.

#### 3-1 Application of lubricating jelly

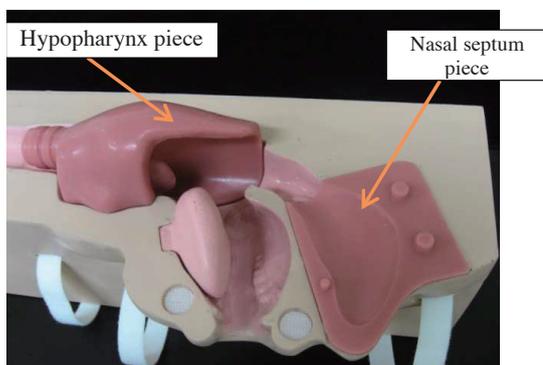
Remove the Velcro belt and take off the half head piece.

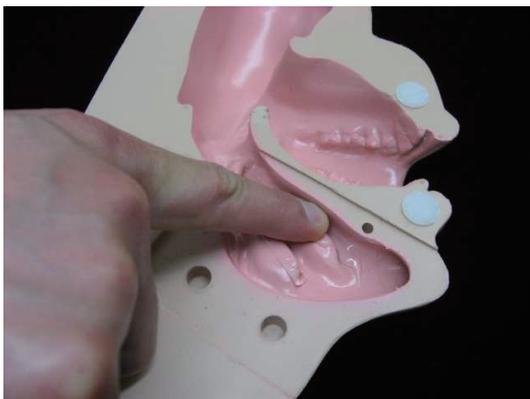
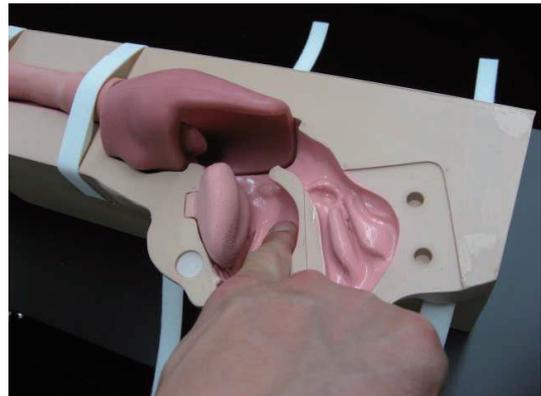
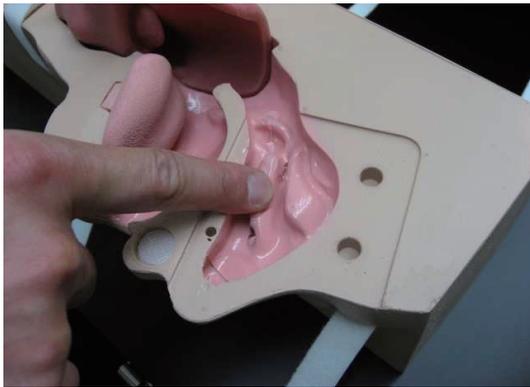


Remove the cardiac connector that connects the stomach to the esophagus pieces.

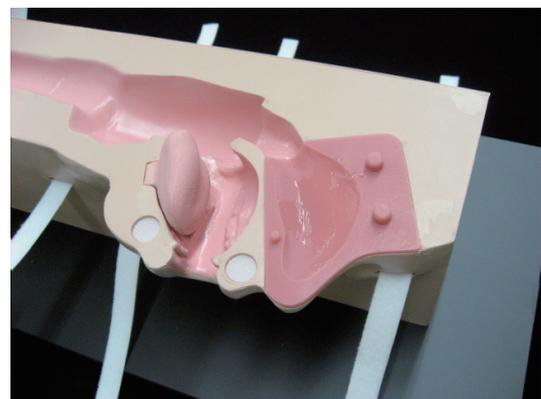
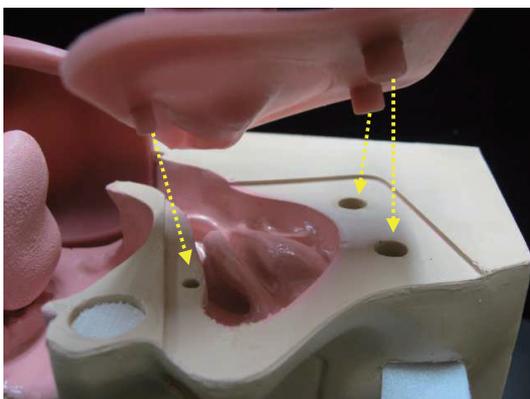
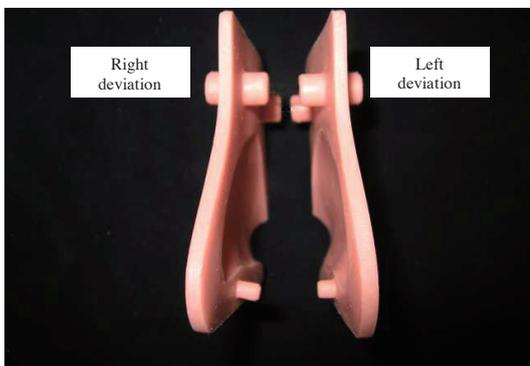


Remove the nasal septum and the hypopharynx piece, and apply lubrication jelly to the nasal and oral cavities of the main and half head pieces.

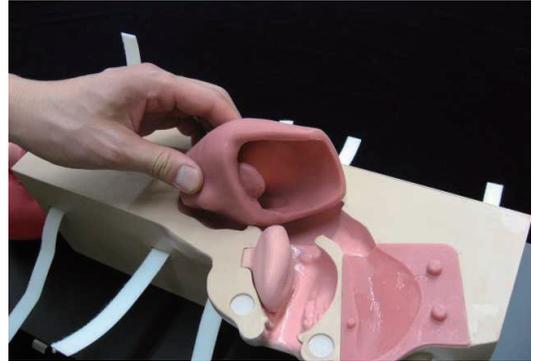




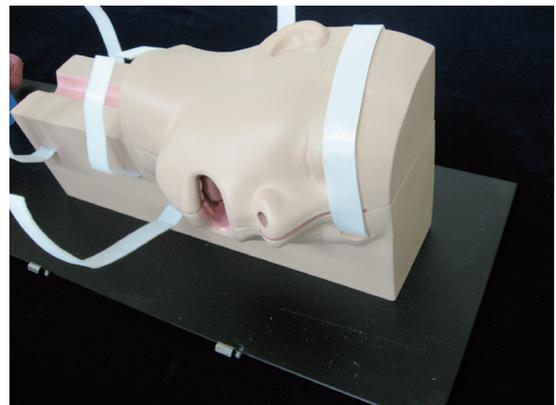
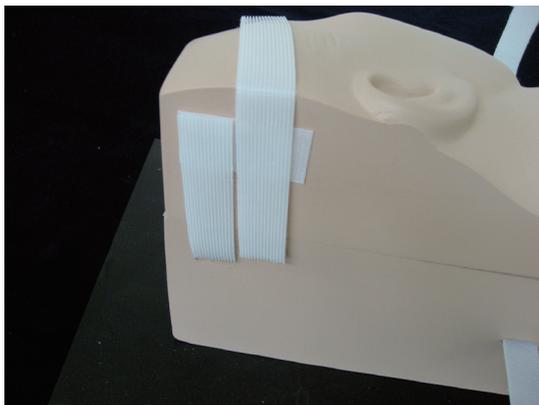
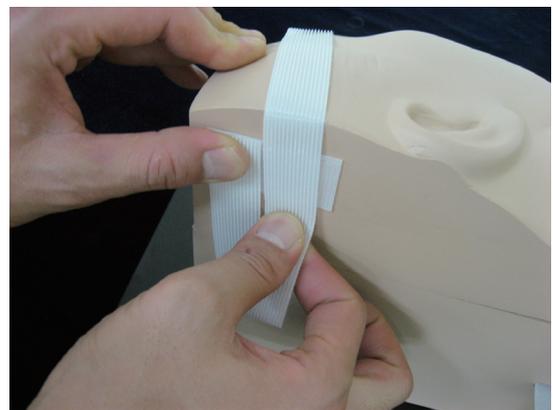
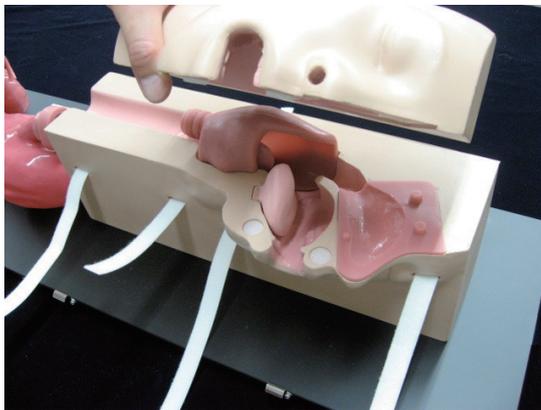
The nasal septum piece is available as both a right and left deviation type. Select one, and apply the lubricating jelly. Then attach it to the main head piece.



After applying the lubricating jelly to the hypopharynx piece, attach it to the main head piece.



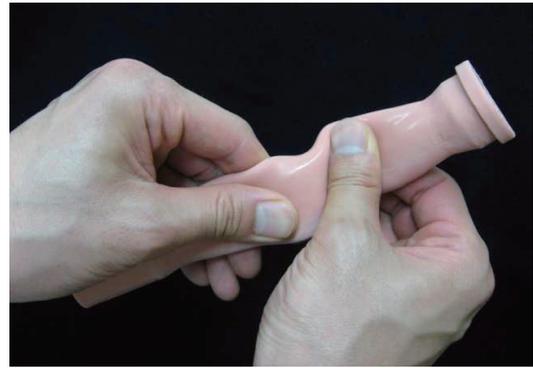
Put the half head piece on the main head and secure them with Velcro tape. Velcro tape on the parietal region of the head should be fixed with a piece of Velcro on the back of the head.



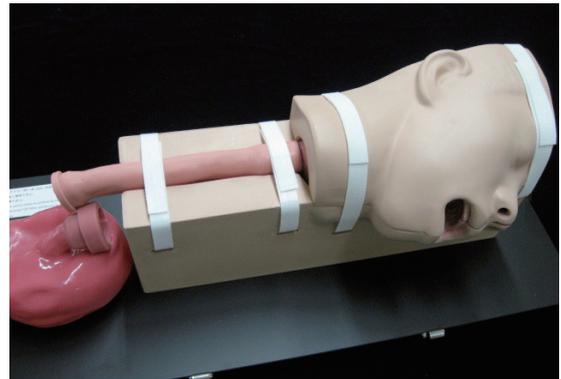
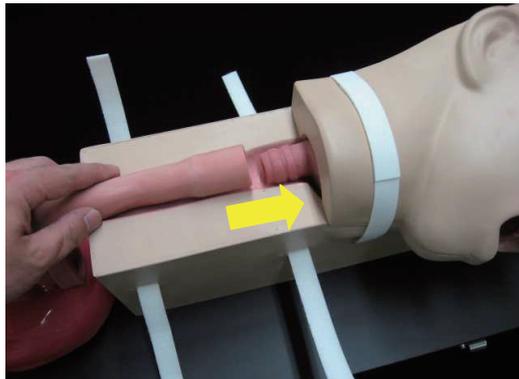
Apply lubricating jelly to the inside of the esophagus piece.

Insert lubricating jelly into the esophagus piece from the hypopharyngeal and cardiac ends, and spread the lubricating jelly to cover the entire inner side of the esophageal piece by kneading it from the outside.

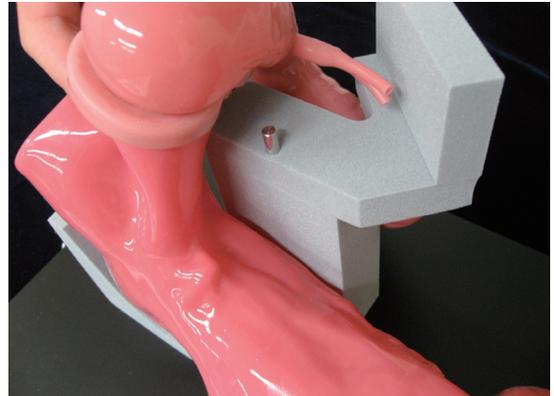
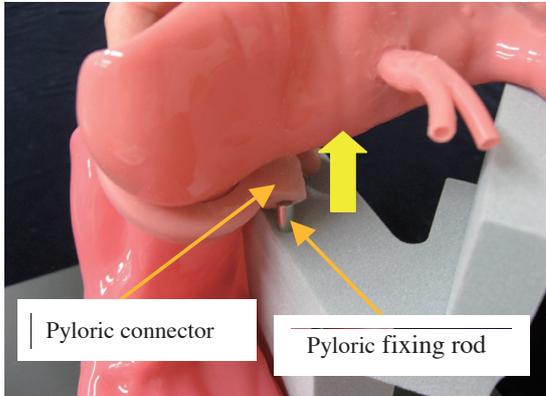
**\*When kneading it, be careful not to dig your nails into the piece. It may be damaged.**



After attaching it to the hypopharynx piece, secure it with Velcro tape.



To remove the stomach, remove the pyloric connector that connects the stomach to the duodenum piece after pulling the pyloric connector up and removing the stomach and duodenum piece from the pyloric fixing rod.



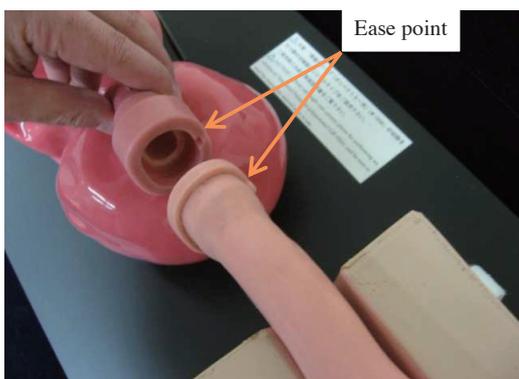
Apply lubricating jelly to the entire inside of the stomach.

Insert lubricating jelly into the stomach from the cardiac and pyloric connectors, and spread it to the entire inner side of the main stomach by kneading it from the outside.

**\*When kneading it, be careful not to dig your nails into the piece. It may be damaged.**



Attach the cardiac connector. Join the ease points of the connector to connect them.



Apply lubricating jelly to the inside of the duodenum piece.

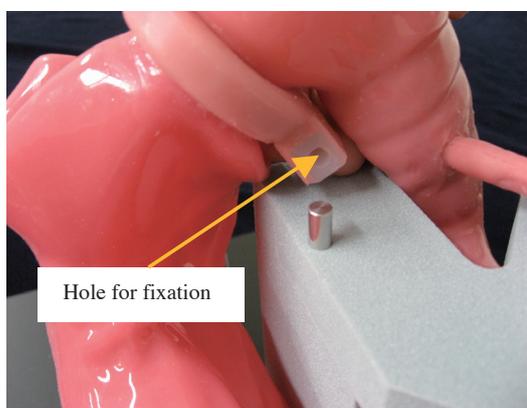
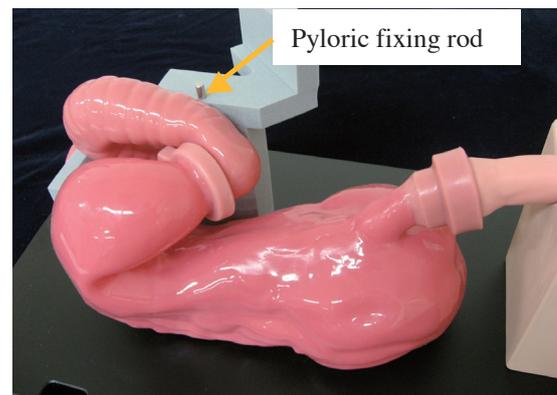
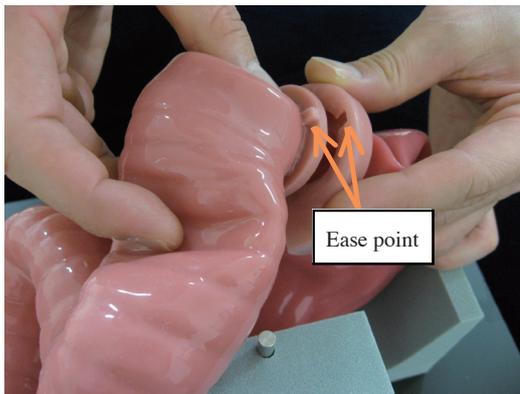
Insert lubricating jelly into the duodenum piece and apply lubricating jelly to the entire inner side of the duodenum piece by kneading it from the outside.

**\*When kneading it, be careful not to dig your nails into the piece. It may be damaged.**

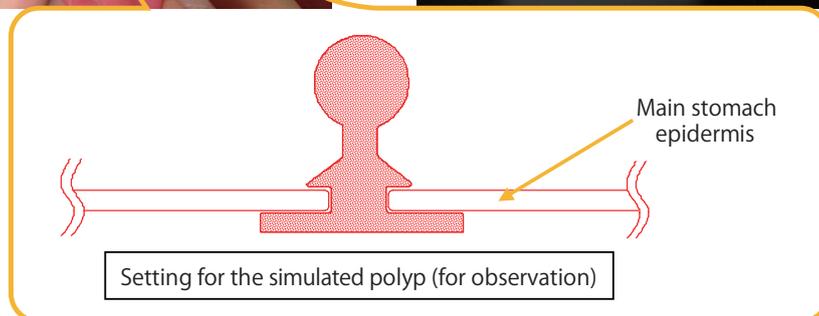
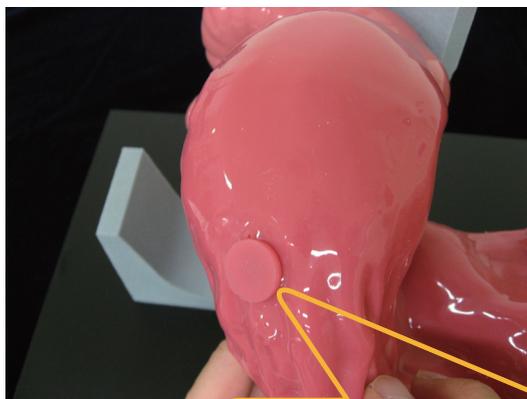
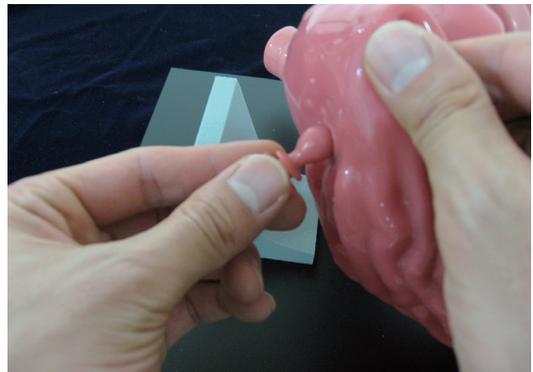
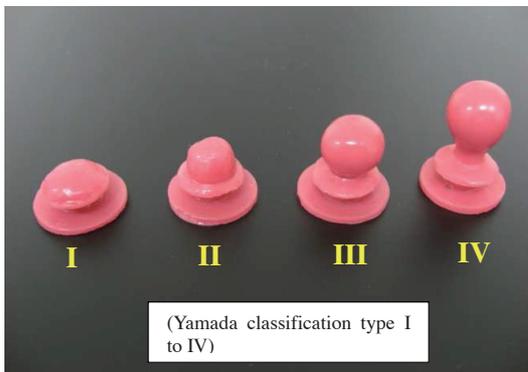


Attach the pyloric connector. Join the ease points of the connectors to connect them.

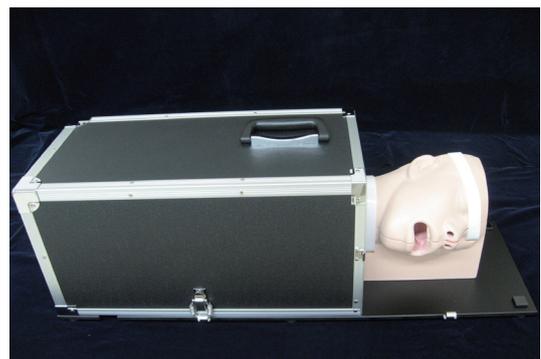
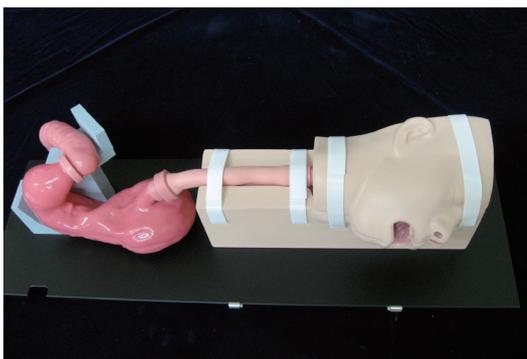
Then insert the pyloric fixing rod into the hole for fixation of the pyloric connector.



Select 1 of the 4 types of simulated polyp (for observation) , and insert it into the hole at the bottom of the stomach.



Use the hard case (for the body side) as necessary. When not covered, the general location of the endoscope can be seen from the outside of the simulator with the endoscope light. When covered, the endoscopic light cannot be seen from the outside, and training close to the clinical setting is possible.



### 3-2 Attachment of the separately sold option Simulated polyp (for polypectomy) LM-103A

**\* Always store the simulated polyp (for polypectomy) in the refrigerator (2°C to 10°C, do not freeze).**

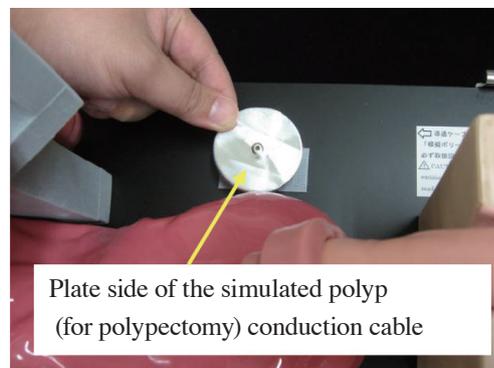
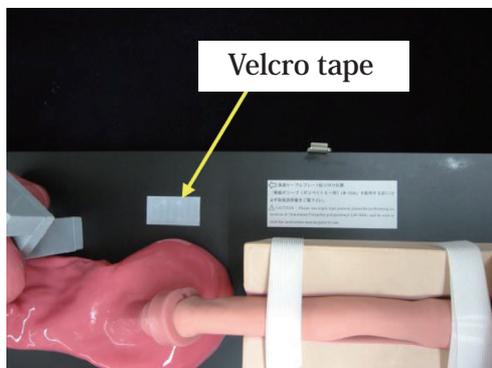
**The disposable return electrode is not included.**

**The storage liquid has a unique odor due to ingredients included to maintain the conductive property of the preservative and the polyp.**

**Keep the storage liquid out of the eyes and mouth.**

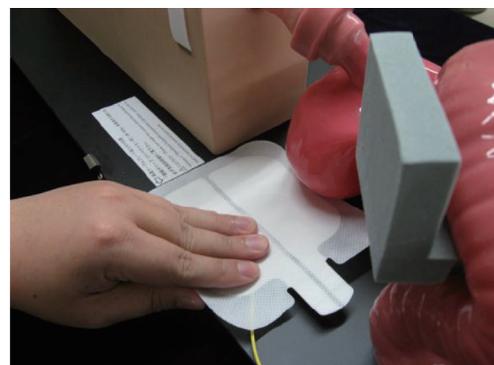
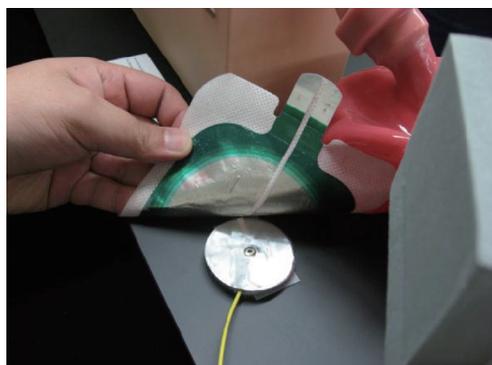
#### ○ Attachment of the return electrode

Stick the plate side of the simulated polyp(for polypectomy) conduction cable to the Velcro tape on the stand.



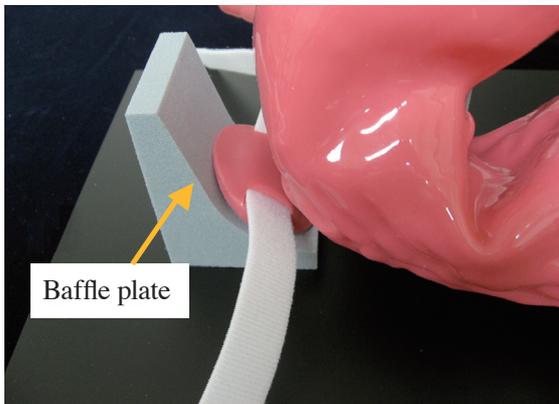
Stick the return electrode you are holding, so that it covers the plate of the simulated polyp (for polypectomy) conduction cable.

\* If using a dual-type return electrode, stick it so that both sides touch the plate.

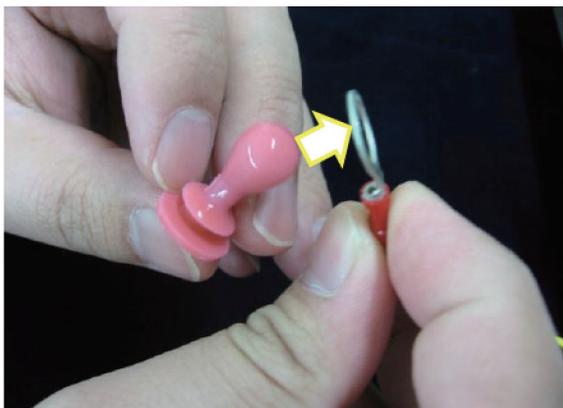


○ Attachment of the simulated polyp (for polypectomy)

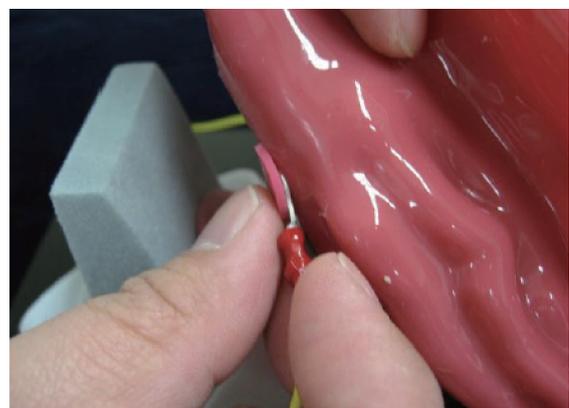
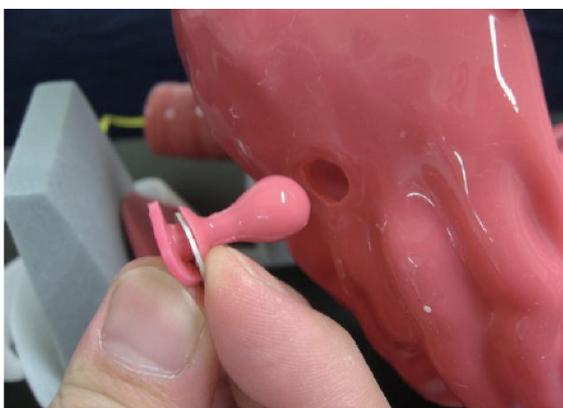
Place the simulated polyp fixture on top of the baffle plate of the stand.



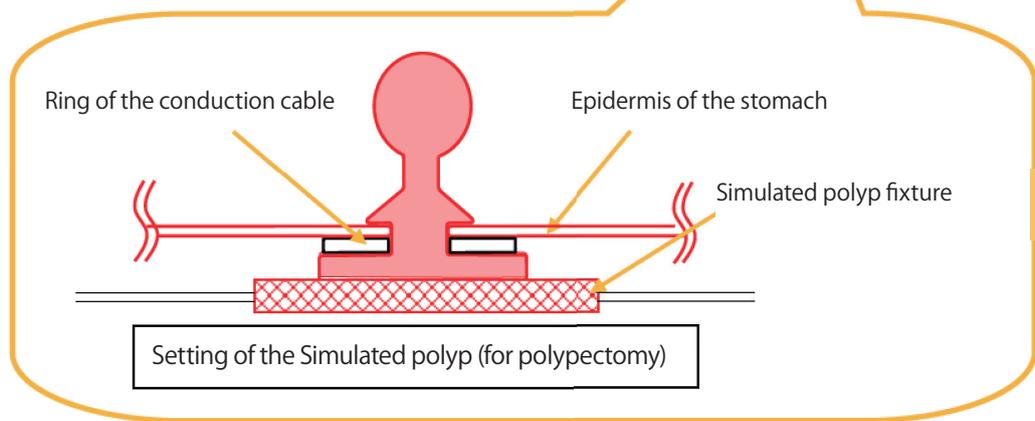
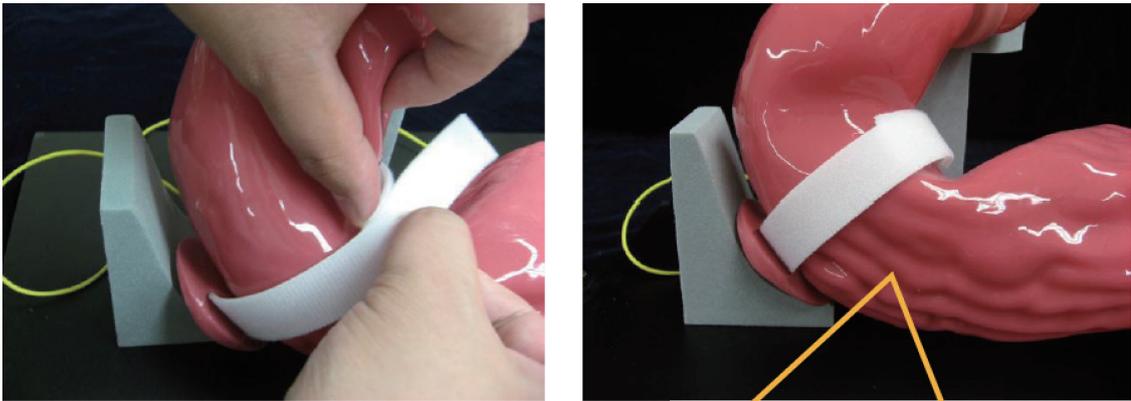
Insert the simulated polyp (for polypectomy) into the ring side of the simulated polyp (for polypectomy) conduction cable.



Insert the simulated polyp (for polypectomy) into the hole at the bottom of the stomach.

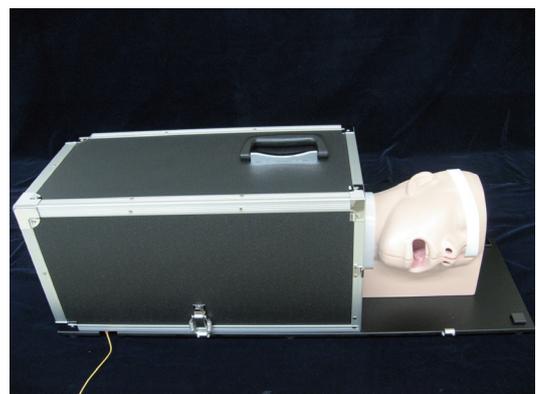
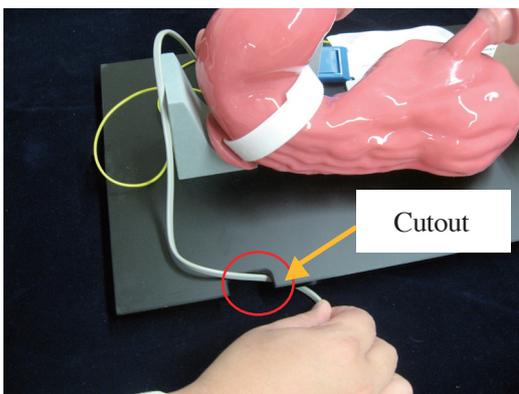


Secure the simulated polyp and the stomach by wrapping them with Velcro tape.



Connect the cord to the return electrode. When it is covered with a hard case (for the body side), pull the cord from the cutout in the stand.

**\*The cord is not included.**



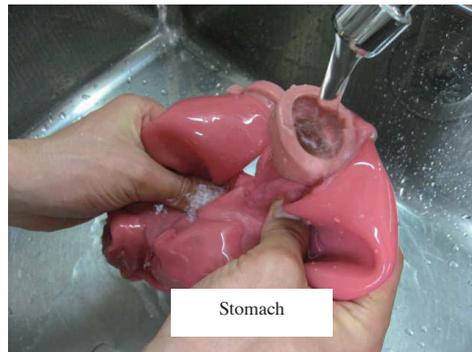
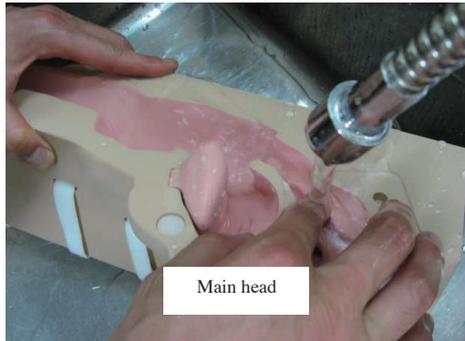
Practicing resection is possible under the same output of the high-frequency ablation instrument as with the human body.

### 3-3 Caring for the simulator

Clean the EGD simulator each time after it was used. Cleaning should be done by the following steps.

Remove each piece from the stand. Rinse each piece with cold or hot water.

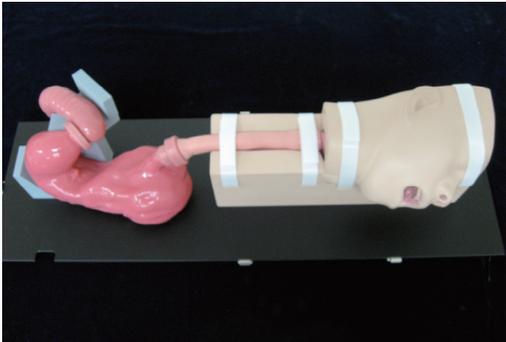
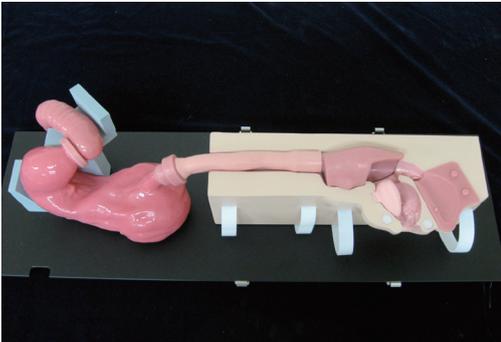
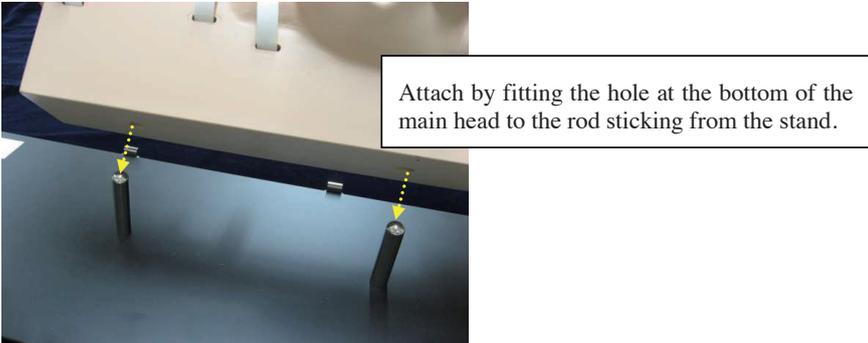
**\*When washing by hand, be careful not to dig your nails into the pieces. They may be damaged.**



Let the water that remains after washing dry out sufficiently in a place where the pieces are not exposed to direct sunlight.



After the pieces have dried, attach the main head to the stand, and then set each piece.



## 4. Simulator configuration table

Product name	Quantity
Stomach	1 pc
Half head	1 pc
Main head	1 pc
Hypopharynx piece	1 pc
Esophagus piece	1 pc
Duodenum piece	1 pc
Nasal septum (deviated to the left)	1 pc
Nasal septum (deviated to the right)	1 pc
Simulated polyp (for polypectomy) conduction cable	1 pc
Stand	1 pc
Simulated polyps(for observation): Yamada classification types I to IV	1 set
Simulated polyp fixture	1 pc
Hard case (for the head side)	1 pc
Hard case (for the body side)	1 pc

### Separately sold options

Product name	Product number
Simulated polyp (for polypectomy) : 5count	LM-103A

**\* The product must be refrigerated (2°C to 10°C, do not freeze).**



Only a Yamada classification type IV shape is included

## 5. Specifications

Product name	Length	Width	Height	Weight
EGD Simulator	Approx.27cm	Approx.80cm	Approx.29cm	Approx.8kg